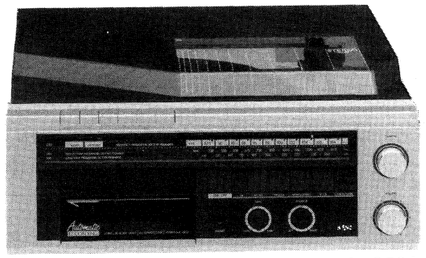
M36

TAPC F1250/30/32

Service
Service
Service

For Servicing Information concerning the cassette mechanism refer to Service Manual: "Recorder Tape Deck RT68 and RT1".

For Servicing Information concerning the record player refer to Service Manual F7043/00.



37 959A

Service Manual

(GB) TECHNICAL DATA	(NL) SPECIFICATIES	(F) SPECIFICATIONS	(D) TECHNISCHE DATEN	(I) DATI TECNICI	
Power supply voltages	Voedingsspanningen	Alimentation	Versorgungsspannungen	Tensioni d'alimentazione	: 110, 127, 220 V 50/60 Hz ~
Power consumption	Opgenomen vermogen	Puissance absorbée	Leistungsaufnahme	Potenza assorbita	: ⩽ 35 W
Dimensions	Afmetingen	Dimensions	Abmessungen	Dimensioni	: 390 x 128/138 x 368 mm approx
Wave ranges	Golfbereiken	Gammes d'ondes	Wellenbereiche:	Gamme d'onda:	
FM	FM	FM	UKW	FM	: 87.5 - 108 MHz (2000-1177 m)
MW	MW	PO	MW	OM	: 520 - 1605 kHz (577-187 m)
LW	LW	GO	LW	OL	: 150 - 255 kHz
Sensitivity	Gevoeligheid:	Sensibilité	Empfindlichkeit:	Sensibilità:	
Δf 75 kHz FM	Δf 75 kHz FM	Δf 75 kHz FM	Δf 75 kHz FM	Δf 75 kHz FM	: (3 μV mono, 26 dB S/N) (90 μV stereo, 46 dB S/N)
600 kHz AM	600 kHz AM	600 kHz AM	600 kHz AM	600 kHz AM	: (1200 μV/m for 26 dB S/N)
Aerial input	Antenne ingang	Impédance d'antenne	Antennen-Impedanz	Ingresso antenna	: 300 Ω
Output power (at 4 Ω load)	Uitgangsvermogen (4 Ω)	Puissance de sortie (4 Ω)	Ausgangsleistung (4 Ω)	Potenza d'uscita (con carico 4 Ω)	: 2 x 2.25 W (1 kHz) D⩽10%
Output impedance	Uitgangsimpedantie	Impédance de sortie	Ausgangsimpedanz	Impedenza d'uscita	: 4 Ω
Output impedance of headphones	Uitgangsimpedantie hoofdtelefoon	Impédance de sortie écouteurs	Kopfhörer-Ausgangs-impedanz	Impedenza d'uscita per cuffia	: 4-1000 Ω
Cassette deck	**Recorder**	**Magnétophone**	**Recorder**	**Piastra registratore**	
Speed	Snelheid	Vitesse	Geschwindigkeit	Velocità	: 4.76 cm/sec ±2%
Wow and flutter	Wow en flutter	Pleurage et scintillement	Gleichlaufschwankungen	Wow e flutter	: ⩽ 0.2%
Record player	**Platenspeler**	**Tourne-disque**	**Plattenspieler**	**Giradischi**	
Speed	Snelheid	Vitesse	Geschwindigkeit	Velocità	: 33⅓-45 r.p.m.
Wow and flutter	Wow en flutter	Pleurage et scintillement	Gleichlaufschwankungen	Wow e flutter	: ⩽ 0.25%
Pick up cartridge	Element	Cartouche pick-up	Tonabnehmersystem	Testina	: GP215

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

(GB) (NL) Subject to modification 4822 725 20572 (F) (D) (I)

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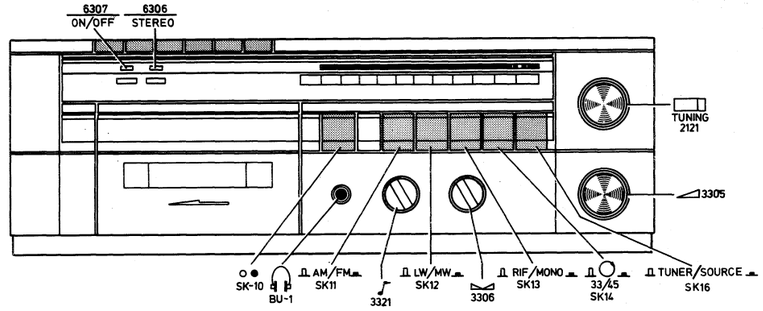
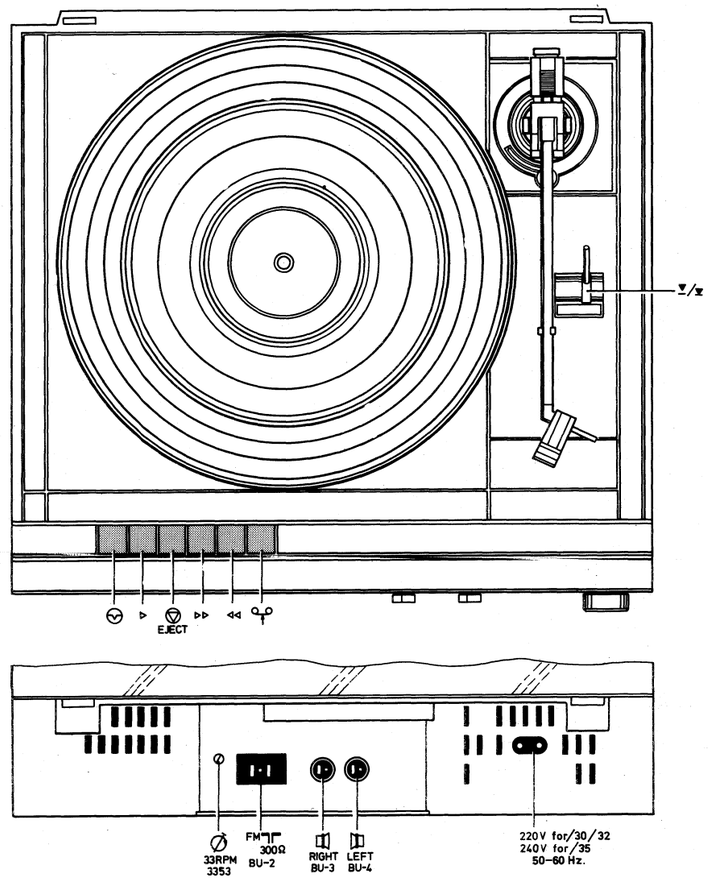




37 661 D12

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

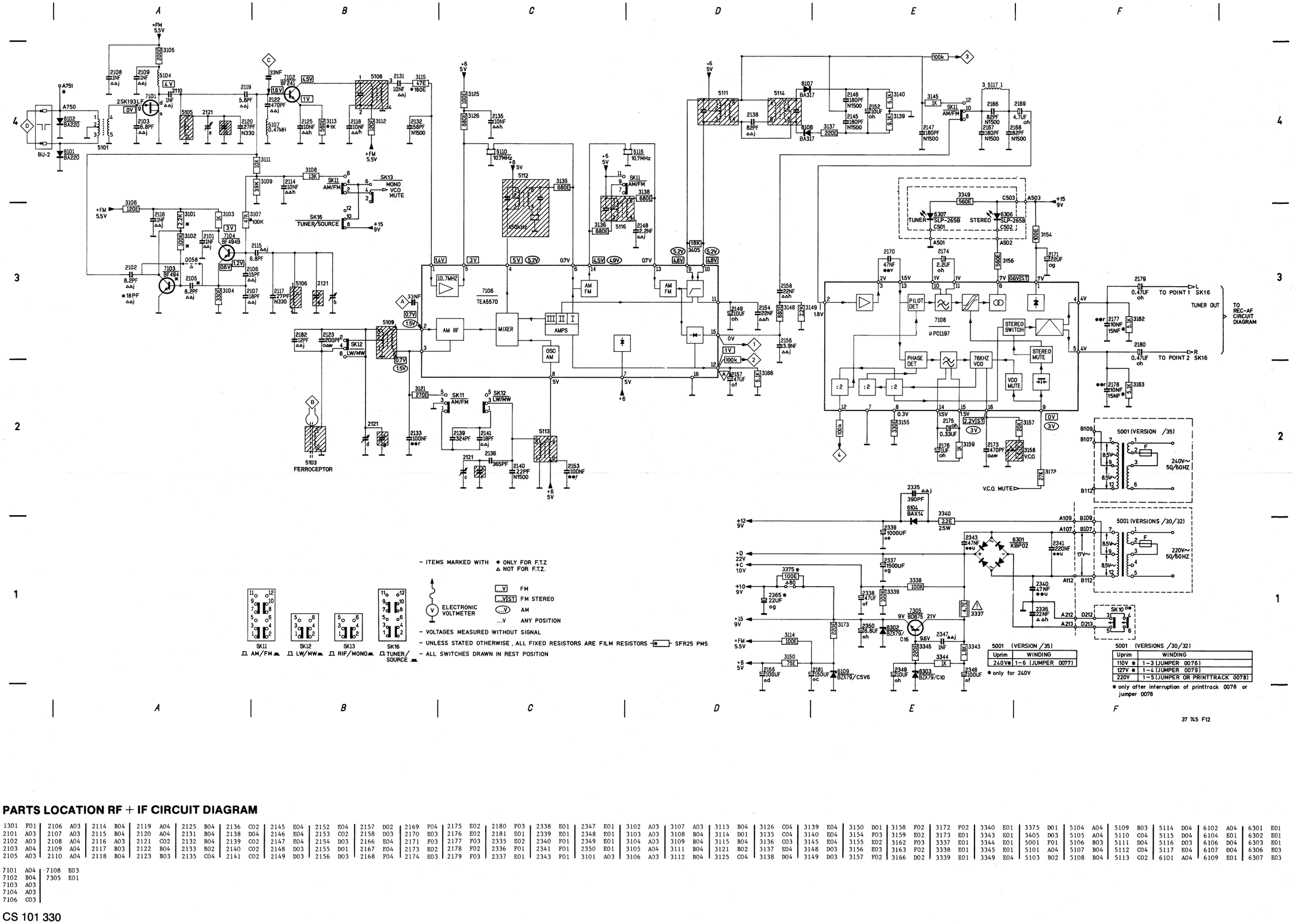
(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

RF + IF CIRCUIT DIAGRAM

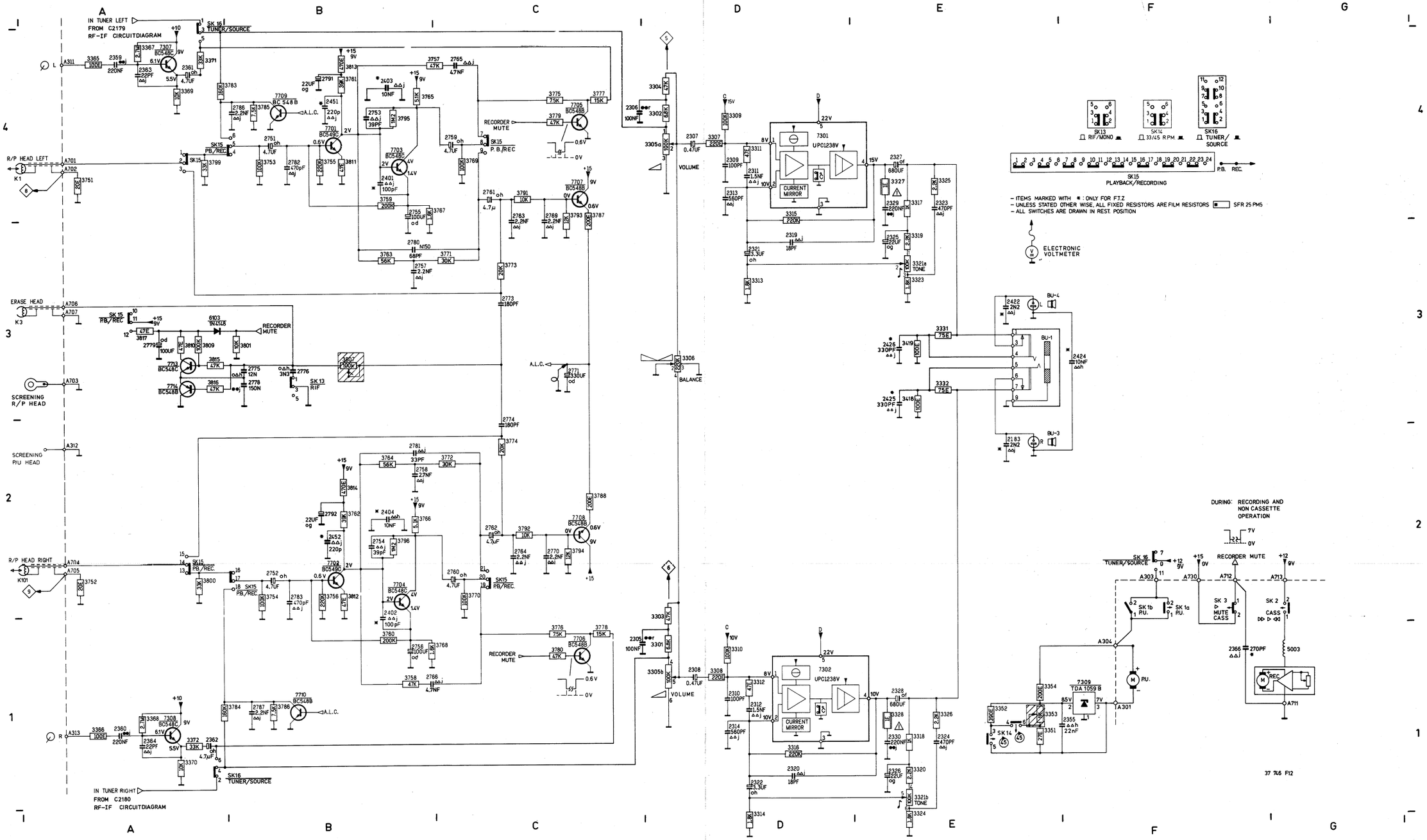


PARTS LOCATION RF + IF CIRCUIT DIAGRAM

1301	F01	2106	A03	2114	B04	2119	A04	2125	B04	2136	C02	2145	E04	2152	E04	2157	D02	2169	F04	2175	E02	2180	F03	2338	E01	2347	E01	3102	A03	3107	A03	3113	B04	3126	C04	3139	E04	3150	D01	3158	F02	3172	F02	3340	E01	3375	D01	5104	A04	5109	B03	5114	D04	6102	A04	6301	E01
2101	A03	2107	A03	2115	B04	2120	A04	2131	B04	2138	D04	2146	E04	2153	C02	2158	D03	2170	E03	2176	E02	2181	E01	2339	E01	2348	E01	3103	A03	3108	B04	3114	D01	3135	C04	3140	E04	3154	F03	3159	E02	3173	E01	3343	E01	3405	D03	5105	A04	5110	C04	5115	D04	6104	E01	6302	E01
2102	A03	2108	A04	2116	A03	2121	C02	2132	B04	2139	C02	2147	E04	2154	D03	2166	E04	2171	F03	2177	F02	2335	E02	2340	F01	2349	E01	3104	A03	3109	B04	3115	B04	3136	C03	3145	E04	3155	E02	3162	F03	3337	E01	3344	E01	5001	F01	5106	B03	5111	D04	5116	D03	6106	D04	6303	E01
2103	A04	2109	A04	2117	B03	2122	B04	2133	B02	2140	C02	2148	D03	2155	D01	2167	E04	2173	E02	2178	F02	2336	F01	2341	F01	2350	E01	3105	A04	3111	B04	3121	B02	3137	E04	3148	D03	3156	E03	3163	F02	3338	E01	3345	E01	5101	A04	5107	B04	5112	C04	5117	E04	6107	D04	6306	E03
2105	A03	2110	A04	2118	B04	2123	B03	2135	C04	2141	C02	2149	D03	2156	D03	2168	F04	2174	E03	2179	F03	2337	E01	2343	F01	3101	A03	3106	A03	3112	B04	3125	C04	3138	D04	3149	D03	3157	F02	3166	D02	3339	E01	3349	E04	5103	B02	5108	B04	5113	C02	6101	A04	6109	E01	6307	E03

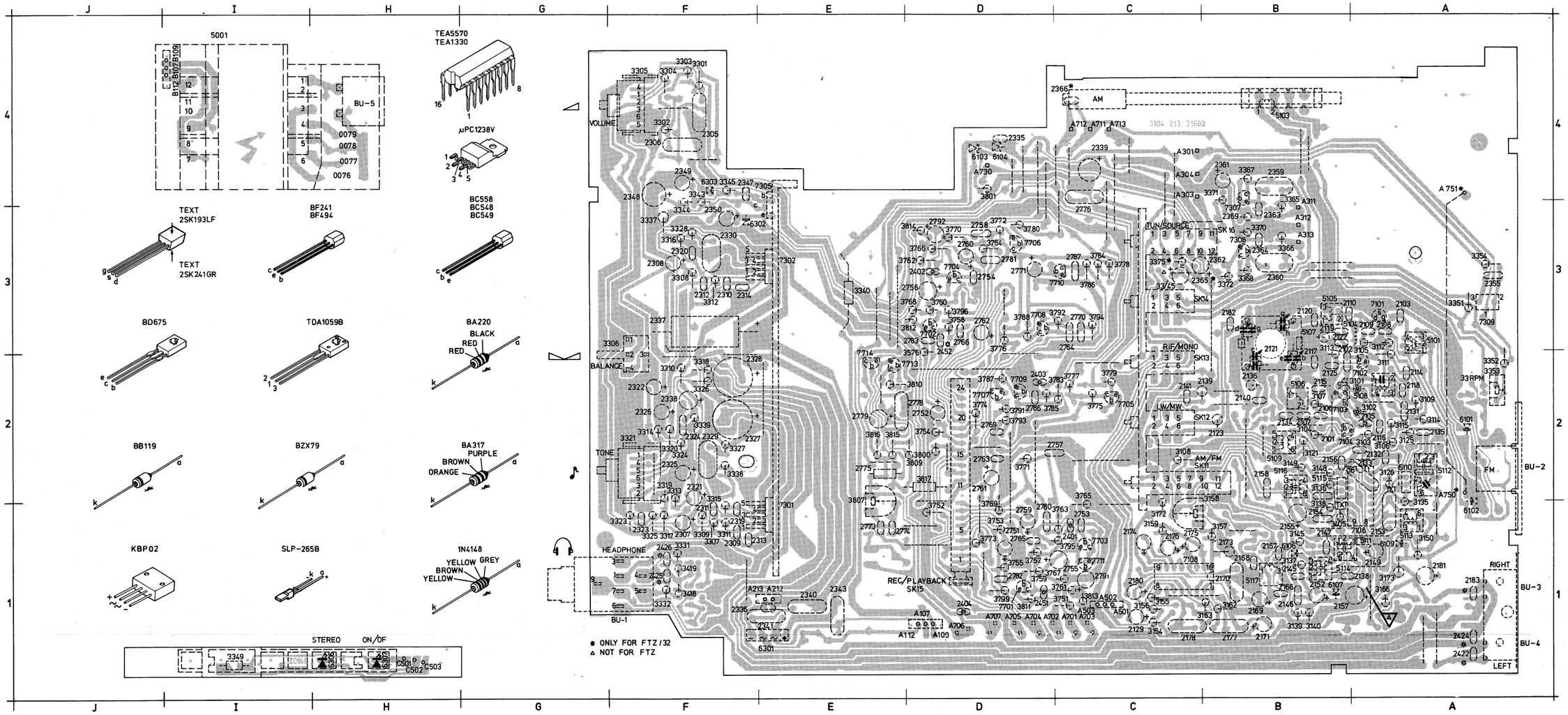
7101	A04	7108	E03
7102	B04	7305	E01
7103	A03		
7104	A03		
7106	C03		

AF + REC CIRCUIT DIAGRAM



PARTS LOCATION AF + REC CIRCUIT DIAGRAM

| | | |



7101
g= 0V
d= 4V
s= —

7102
e= 1V
b= 1.6V
c= 4.5V

7104
e= 0.5V
b= 1.2V
c= 3V

7106
1= 1.4V
2= 0.7V (1.5V)
3= 0.7V (1.5V)
4= 5V (5.2V)
5= 3V
6= 0.7V
7= 5V
8= 5V
9= 4.8V (5.2V)
10= 4.8V (5.2V)
11= 1.5V
12= 1V
13= 0.7V
14= 4.5V (4.9V)
15= 0V
16= ⊥

7108
1= 7V
2= 1.8V
3= 2V
4= 4V
5= 4V
6= 7V (0.6V ST)
7= ⊥
8= 0.3V
9= 3V (0V)
10= 1V
11= 1V
12=
13= 1.5V
14= 1.5V
15= 1.5V
16= 2.2V ST (3V)

7302
1= 8 V
2= 10 V
3= ⊥
4= 10 V
5= 22 V

7301
1= 8 V
2= 10 V
3= ⊥
4= 10 V
5= 22 V

7307
e= 5.5 V
b= 6.1 V
c= 9 V

7305
e= 9V
b= 9.6V
c= 21V

7309
1= ⊥
2= 8.5 V
3= 7V

7308
e= 5.5V
b= 6.1V
c= 9V

7702
e= 0V
b= 0.6 V
c= 2 V

7701
e= 0V
b= 0.6V
c= 2V

7704
e= 1.4 V
b= 2 V
c= 4 V

7703
e= 1.4 V
b= 2 V
c= 4 V

7706
e= ⊥
b= 0.6V
c= —

7705
e= ⊥
b= 0.6 V
c= —

7708
e= 0.6 V
b= 0 V
c= 9 V

7707
e= 0.6V
b= 0V
c= 9V

7710
e= ⊥
b=
c=

7709
e= ⊥
b= —
c= —

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PARTS LOCATION PANEL (RF + IF PART)

| | | |

ALIGNMENT

General

- During the alignment, keep the levels of the injected signals as low as possible.
- Alignment of IF stages requires a sweep signal.
  For FM: Apply a 10.7 MHz signal with a sweep of 300 kHz at a frequency of 50 Hz.
  For AM: Apply a 450 kHz (468 kHz) signal with a sweep of 10 kHz at a frequency of 50 Hz.
- Switch SK13 position: stereo

Equipment required

- RF generator
- Oscilloscope
- DC-millivoltmeter
- AC-millivoltmeter
- Frequency counter

FM-IF

SK switch	signal	to	tune in	DETUNE	adjust	oscilloscope	DC mV meter
FM SK-11	10.7 MHz Δf 300 kHz (50 Hz)	◇C		B		◇2 1 center, fo	
	fo=f generator Δf=10 kHz (50 Hz)				5108	◇2 2 symmetrical, max.	
	10,7 MHz Δf 300 kHz (50 Hz) 1 mV				5114 5111	◇3 3 symmetrical	
	10,7 MHz No sweep				5114		DC ◇3 0 V ± 30 mV
				B			

FM-oscillator

FM SK-11	87.63 MHz mod. 1 kHz Δf 22.5 kHz	◇D	max. cap. 2121		5106	◇3 max. ~	
	108.0 MHz mod. 1 kHz Δf 22.5 kHz		min. cap. 2121		2121e		

FM-RF antenna section

FM SK-11	87.63 MHz mod. 1 kHz Δf 22.5 kHz	◇D			5105	◇3 max. ~	
	108.0 MHz mod. 1 kHz Δf 22.5 kHz				2121h		

Stereo-decoder

FM SK-11	No signal				3158	Counter ◇4 19 kHz ± 100 Hz	

GB

1. Place the peak of the band-pass curve in the middle of the picture by shifting the sweep frequency.
2. Adjust for maximum height and symmetry.
3. Adjust for linearity and symmetry of the S-curve.
B. Open solder bridge ⧊.

NL

1. De top van de doorlaat curve, door verschuiven van wobbelfrequentie, in het midden van het scherm plaatsen.
2. Afregelen op maximum hoogte en symmetrie.
3. Afregelen op lineariteit en symmetrie van de S-kurve.
B. Open soldeerbrug ⧊.

F

1. En décalant la fréquence de wobulation, placer la crête de la courbe de réponse au centre de l'écran.
2. Ajuster pour avoir une courbe d'amplitude maximale et de bonne symétrie.
3. Ajuster pour avoir une courbe en S de bonne linéarité et de bonne symétrie.
B. Ouvrir le pontet ⧊.

I

1. Portare la cresta della curva di risposta al centro dello schermo per mezzo di scivolamento della frequenza di modulazione.
2. Regolare per altezza e simmetria massima.
3. Regolare per linearità e simmetria della curva ad S.
B. Aprire il ponticello ⧊.

AM-IF

SK switch	signal	to	tune in	adjust	oscilloscope	AC mV meter
AM SK-11 MW SK-12	450 kHz Δf 10 kHz (50 Hz)				◇1 1 center, fo	
	fo=f generator Δf=10 kHz (50 Hz)	◇A	2121 max. cap.	5112 5116	Symmetrical ◇1 MAX. 2	

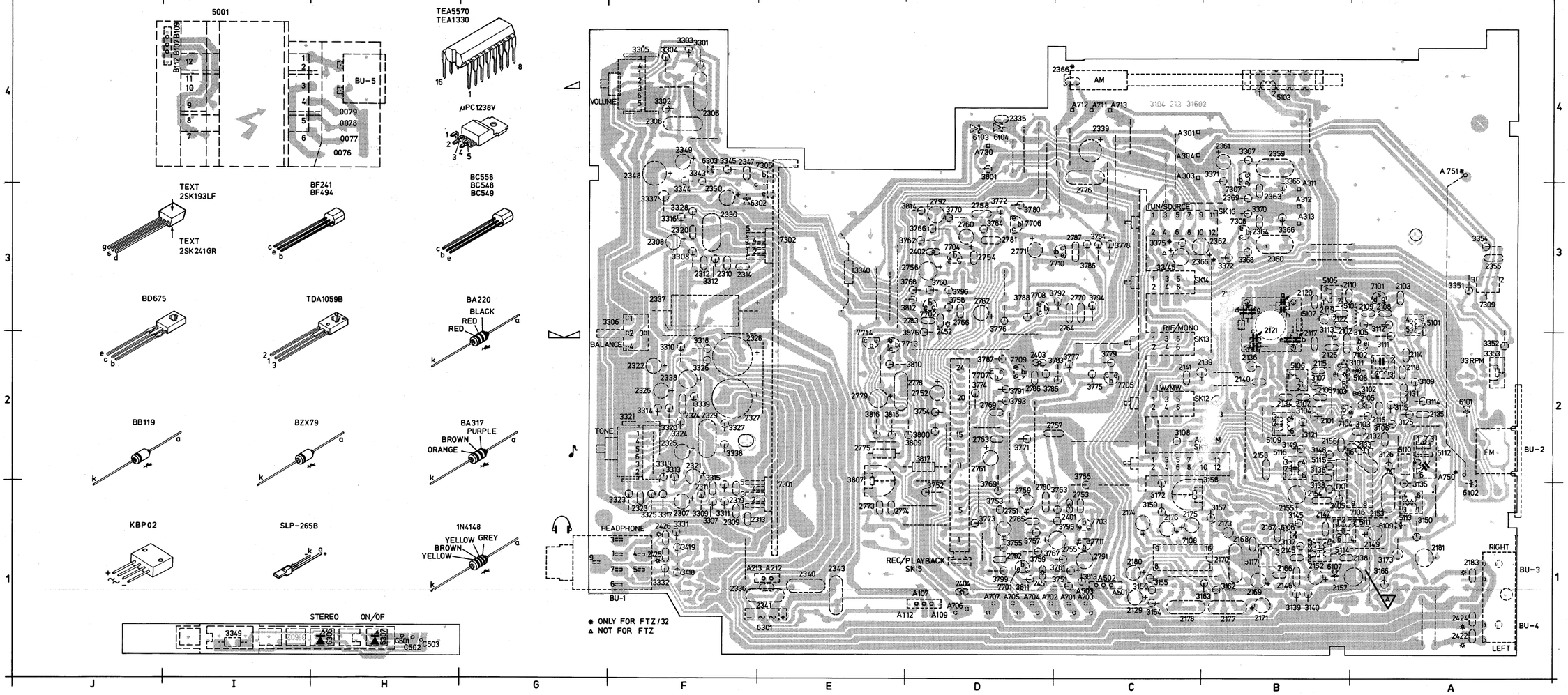
AM-RF-oscillator

AM SK-11 LW SK12	147 kHz mod: 1 kHz 30%	◇A	2121 max. cap.	5113		◇1 max.~
AM SK-11 MW SK-12	1635 kHz mod: 1 kHz 30%		2121 min. cap.	2121f		

AM-RF-antenna section

AM SK-11 MW SK-12	560 kHz mod: 1 kHz 30%	◇B		5103		◇1 max.~
	1500 kHz mod: 1 kHz 30%			2121g		
AM SK-11 LW SK-12	160 kHz mod: 1 kHz 30%			5109		

↕ Repeat - Herhalen - Répéter - Wiederholen - Ricomminciare



7101
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d= 4V
s= —

7102
e= 1V
b= 1.6V
c= 4.5V

7104
e= 0.6V
b= 1.2V
c= 3V

7106
1= 1.4V
2= 0.7V (1.5V)
3= 0.7V (1.5V)
4= 5V (5.2V)
5= 3V
6= 0.7V
7= 5V
8= 5V
9= 4.8V (5.2V)
10= 4.8V (5.2V)
11= 1.5V
12= 1V
13= 0.7V
14= 4.5V (4.9V)
15= 0V
16= ⊥

7108
1= 7V
2= 1.8V
3= 2V
4= 4V
5= 4V
6= 7V 0.6V ST
7= ⊥
8= 0.3V
9= 3V (0V)
10= 1V
11= 1V
12=
13= 1.5V
14= 1.5V
15= 1.5V
16= 2.2V ST (3V)

7302
1 = 8 V
2 = 10 V
3= ⊥
4 = 10 V
5 = 22 V

7301
1 = 8 V
2 = 10 V
3= ⊥
4 = 10 V
5 = 22 V

7307
e= 5.5 V
b= 6.1 V
c= 9 V

7305
e = 9V
b= 9.6V
c = 21V

7309
1 = ⊥
2 = 8.5 V
3 = 7V

7308
e= 5.5V
b= 6.1V
c= 9V

7702
e= 0V
b= 0.6 V
c= 2V

7701
e= 0V
b= 0.6V
c= 2V

7704
e= 1.4 V
b= 2 V
c= 4 V

7703
e= 1.4 V
b= 2 V
c= 4 V

7706
e= ⊥
b= 0.6V
c= —

7705
e= ⊥
b= 0.6 V
c= —

7708
e= 0.6 V
b= 0 V
c= 9 V

7707
e= 0.6V
b= 0V
c= 9 V

7710
e= ⊥
b=
c=

7709
e= ⊥
b= —
c= —

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PARTS LOCATION PANEL (AF + REC PART)

2183	A01	2309	F01	2314	F03	2323	F01	2328	E02	2360	B03	2366	C04	2424	A01	2751	D01	2756	D03	2761	D02	2766	D03	2774	D01	2779	E02	2786	D02	3302	F04	3307	F01	3312	F03	3317	F01	3323	F01	3328	F03	3353	A02	3368	B03	3418	F01	3754	D02	3759	D01	3764	D03	3769	D01	3774	D02
2305	F04	2310	F03	2319	F01	2324	F02	2329	F02	2361	B04	2401	C01	2425	F01	2752	D02	2757	C02	2762	D03	2769	D02	2775	E02	2780	D01	2787	C03	3303	F04	3308	F03	3313	F02	3318	F02	3324	F02	3331	F01	3354	A03	3369	B03	3419	F01	3755	D01	3760	D03	3765	C02	3770	D03	3775	C02
2306	F04	2311	F01	2320	F03	2325	F02	2330	F03	2362	B03	2402	D03	2426	F01	2753	C01	2758	D03	2763	D02	2770	C03	2776	C03	2781	D03	2791	C01	3304	F04	3309	F01	3314	F02	3319	F02	3325	F01	3332	F01	3365	B03	3370	B03	3751	C01	3756	D02	3761	C01	3766	D03	3771	D02	3776	D03
2307	F01	2312	F03	2321	F02	2326	F02	2355	A03	2363	B03	2404	D01	2451	D02	2754	D03	2759	D01	2764	C03	2771	D03	2777	C03	2782	D01	2792	D03	3305	F04	3310	F02	3315	F02	3320	F02	3326	F02	3351	A03	3366	B03	3371	B04	3752	D01	3757	D01	3762	D03	3767	C01	3772	D03	3777	C02
2308	F03	2313	E01	2322	F02	2327	E02	2359	B04	2364	B03	2422	A01	2452	D03	2755	C01	2760	D03	2765	D01	2773	E01	2778	D02	2783	D03	3301	F04	3306	F03	3311	F01	3316	F03	3321	F02	3327	F02	3352	A02	3367	B04	3372	B03	3753	D01	3758	D03	3763	C01	3768	D03	3773	D01	3778	C03

3779	C02	3786	C03	3793	D02	3800	D02	3811	D01	3816	E02	7302	E03	7702	D03	7707	D02																		
3780	D03	3787	D02	3794	C03	3801	D04	3812	D03	3817	D02	7307	B03	7703	C01	7708	D03																		
3783	C02	3788	D03	3795	C01	3807	E01	3813	C01	5001	I04	7308	B03	7704	D03	7710	C03																		
3784	C03	3791	D02	3796	D03	3809	D02	3814	D03	6103	D04	7309	A03	7705	C02	7713	E02																		
3785	D02	3792	C03	3799	D01	3810	D02	3815	E02	7301	E01	7701	D01	7706	C03	7714	E02																		

(D)

1 Die Spitze der Durchlasskurve in der Mitte des Bildes legen dadurch, dass man die Wobbelfrequenz verschiebt.

2 Abgleichen auf Maximalhöhe und Symmetrie.

3 Abgleichen auf Linearität und Symmetrie der S-Kurve.

B Lötbrücke ⋀ öffnen.

"Bei notwendigem Abgleich ist das Gerät auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen".
>87.2 MHz <108.5 MHz

(GB) Electrical measurements and adjustments "Recorder"

*A. — The maximum permissible speed deviation is ±2%.
Moreover, the wow and flutter value can be read.
— This value should not exceed 0.35%.

*B. — Connect the Service cassette set to the apparatus via one of the loudspeaker connectors.
— Set the apparatus to the play back position with the 50 Hz cassette from the cassette service set.
— With R at the back of the motor, adjust for minimum variation of the indicator reading.

*C. — If the accuracy requirements are less stringent a high quality ferro (normal) cassette may be used as an alternative.

*D. — If the adjustment is correct the frequency response curve will be similar to curve b in Fig. 2 (distortion ⩽5%).

*E. — Switch off A.L.C. by short-circuiting electrolytic capacitor 2771.

(F) Mesurer electriques et reglages "Recorder"

*A. — L'écart de vitesse maximum admissible est de ±2%.
Le taux de pleurage pourra également être lu lors de cette mesure.
— Cette valeur ne doit pas dépasser 0,35%.

*B. — Relier par l'intermédiare d'un des connecteurs de haut-parleur la section cassette Service à l'appareil.
— Positionner en reproduction et faire passer une cassette 50 Hz de la section cassette Service.
— Régler grâce à R à l'arrière du moteur pour que la variation sur l'indicateur soit minimum.

*C. — Si les exigences du point de précision, ne sont pas tellement élevées, une cassette au ferro (normale) de bonne qualité, pourra également convenir.

*D. — Si le réglage est correctement effectué, la courbe de fréquence devra être égale à la courbe b de la Fig. 2 (distorsion ⩽ 5%).

*E. — Mettre la A.L.C. hors service en court-circuitant le condensateur chimique 2771.

(I) Misure e regolazioni elettrische "Recorder"

*A. — La deviazione massima di velocità e ±2%.
Inoltre, può essere rilevato il wow e flutter.
— Questo valore non deve eccedere dello 0,35%.

*B. — Collegare lo strumento di servizio al connettore di uscita di una cassa acustica dell'apparecchio.
— Posizionare l'apparecchio in riproduzione e usare la cassetta test a 50 Hz.
— Regolare la velocità del motore (R), per la minima deviazione dello strumento.

*C. — Per necessità può essere usata una cassetta di alta qualità al ferro (normale).

*D. — Se la regolazione è corretta la curva di risposta in frequenza serà simile alla curva b in Fig. 2. (distorsione ⩽5%).

*E. — Mettere il C.A. fuori funzionamento cortocircuitando il condensatore chimico 2771.

(NL) Elektrische metingen en instellingen "Recorder"

*A. — De hoogst toelaatbare snelheidsafwijking bedraagt ±2%.
Tevens kan bij deze meting de jengelwaarde afgelezen worden.
— Deze waarde mag niet hoger zijn dan 0.35%.

*B. — Via een van de luidsprekerconnectors het Service-cassettedeel met het apparaat verbinden.
— Zet het apparaat in de weergeefstand met de 50 Hz cassette uit het Service-cassettedeel.
— Met R aan de achterzijde van de motor op minimale variatie van de indicatoraflezing instellen.

*C. — Als de nauwkeurigheidseisen minder streng zijn, kan als alternatief een ferro-cassette (normal) van hoge kwaliteit gebruikt worden.

*D. — Als de instelling juist is, zal de frequentiekromme gelijk zijn aan kromme b in Fig. 2 (vervorming ⩽5%).

*E. — A.L.C. regeling uitschakelen door elco 2771 kort te sluiten.

(D) Elektrische Messungen und einstellungen "Recorder"

*A. — Die höchstzulässige Geschwindigkeits-abweichung beträgt ±2%.
Auch lässt sich bei dieser Messung der Jaulwert ablesen.
— Dieser Wert darf 0,35% nicht überschreiten.

*B. — Über einen der Lautsprecherkonnektoren den Service-Cassettenteil mit dem Gerät verbinden.
— Mit dem 50-Hz-Cassette aus dem Service-Cassettenteil das Gerät in die Wiedergabestellung bringen.
— Mit R auf der Rückseite des Motors auf Mindest-Schwankung der Anzeigerablesung einstellen.

*C. — Wenn die Genauigkeitsanforderungen weniger streng sind, kann als Alternative eine Hochsleistungs-Ferrocassette (Normal) benutzt werden.

*D. — Wenn die Einstellung richtig ist, wird der Frequenzgang gleich der Kurve b in Bild 2 (Verzerrung ⩽5%) sein.

*E. — A.L.C. ausschalten durch Kurzschluss von Elko 2771.

Electrical measurements and adjustments recorder and record player

General conditions recorder

— Prior to any measurement or adjustment with the tape running, heads and tape guides should be degaussed and cleaned.
— The measurements and adjustments are related to the left-hand channel.
The corresponding test points and adjusting elements for the right-hand channel are given in brackets.
— The voltages have been measured relative to earth.

Required test equipment and test cassettes

— AF generator
— AC mV meter
— Wow and flutter meter
— Multi meter
— Frequency counter
— Cassette service set 801CSS 4822 395 30078
— Universal test cassette SBC420Fe 4822 397 30071

RECORDER

Adjustment	Cassette	Recorder in position SK	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Playback speed Method 1 or Method 2	3150 Hz part of SBC420Fe	PLAY	—	Loudspeaker output or ⑤ (⑥)	Wow and flutter meter	Trimpotmeter R at the back of the motor	*A
	Test cassette set 801/CSS	PLAY	—	Loudspeaker output	indicator on test set	Trimpotmeter R at the back of the motor	*B
Azimuth R/P head	8 kHz part of SBC420Fe	PLAY	—	⑤ (⑥)	AC mV meter or oscilloscope	Left screw on R/P head	Max. output
Playback sensitivity	315 Hz-0 dB part of SBC420Fe	PLAY	—	⑤ (⑥)	AC mV meter	—	90 mV
Target value BIAS	SBC420Fe side-2 *C	REC+PLAY	—	⑧ (⑨)	AC mV meter	3807	6 mV
	SBC420Fe side-2 *C	REC+PLAY	1 kHz ⑤ (⑥) *E		AC mV meter	LF generator	12 mV
BIAS			63 Hz 250 Hz 6.3 Hz 10 kHz		Record a number of frequencies (same input voltage)		
	Rewind recording made	PLAY		⑤ (⑥)	AC mV meter		See graph Fig. 1 if necessary repeat adjustment *D

RECORD PLAYER

Adjustment	Cassette	Recorder in position SK..	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Speed		SK14 33 ⅓ rpm			Stroboscope	Trimpotmeter R3353 at the back of the set	33 ⅓ rpm

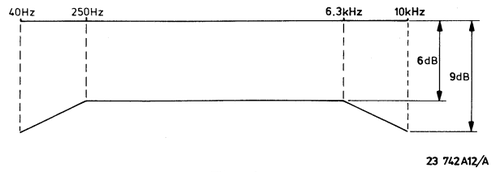

Fig. 1

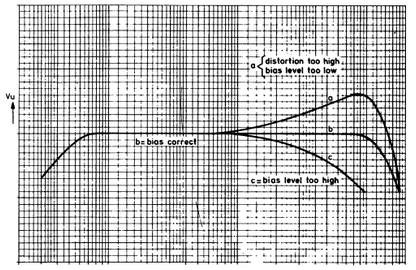

Fig. 2

Electrical measurements and adjustments recorder and record player

General conditions recorder

- Prior to any measurement or adjustment with the tape running, heads and tape guides should be degaussed and cleaned.
- The measurements and adjustments are related to the left-hand channel.
  The corresponding test points and adjusting elements for the right-hand channel are given in brackets.
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Required test equipment and test cassettes

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- AC mV meter
- Wow and flutter meter
- Multi meter
- Frequency counter
- Cassette service set 801CSS 4822 395 30078
- Universal test cassette SBC420Fe 4822 397 30071

RECORDER

Adjustment	Cassette	Recorder in position SK	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Playback speed Method 1 or Method 2	3150 Hz part of SBC420Fe	PLAY	—	Loudspeaker output or ⑤ (⑥)	Wow and flutter meter	Trimpotmeter R at the back of the motor	*A
	Test cassette set 801/CSS	PLAY	—	Loudspeaker output	indicator on test set	Trimpotmeter R at the back of the motor	*B
Azimuth R/P head	8 kHz part of SBC420Fe	PLAY	—	⑤ (⑥)	AC mV meter or oscilloscope	Left screw on R/P head	Max. output
Playback sensitivity	315 Hz-0 dB part of SBC420Fe	PLAY	—	⑤ (⑥)	AC mV meter	—	90 mV
Target value BIAS	SBC420Fe side-2 *C	REC+PLAY	—	⑧ (⑨)	AC mV meter	3807	6 mV
	SBC420Fe side-2 *C	REC+PLAY	1 kHz ⑤ (⑥) *E		AC mV meter	LF generator	12 mV
BIAS			63 Hz 250 Hz 6.3 Hz 10 kHz		Record a number of frequencies (same input voltage)		
	Rewind recording made	PLAY		⑤ (⑥)	AC mV meter		See graph Fig. 1 if necessary repeat adjustment *D

RECORD PLAYER

Adjustment	Cassette	Recorder in position SK..	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Speed		SK14 33 1/3 rpm			Stroboscope	Trimpotmeter R3353 at the back of the set	33 1/3 rpm

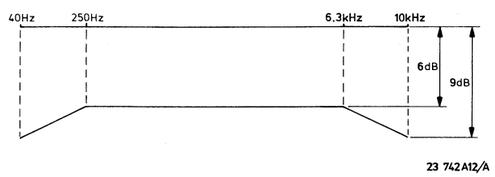


Fig. 1

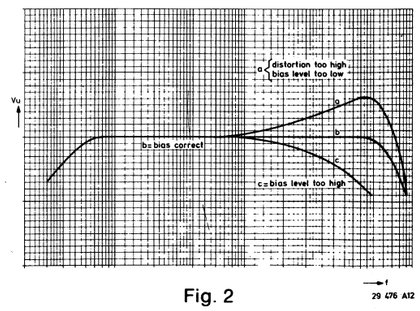
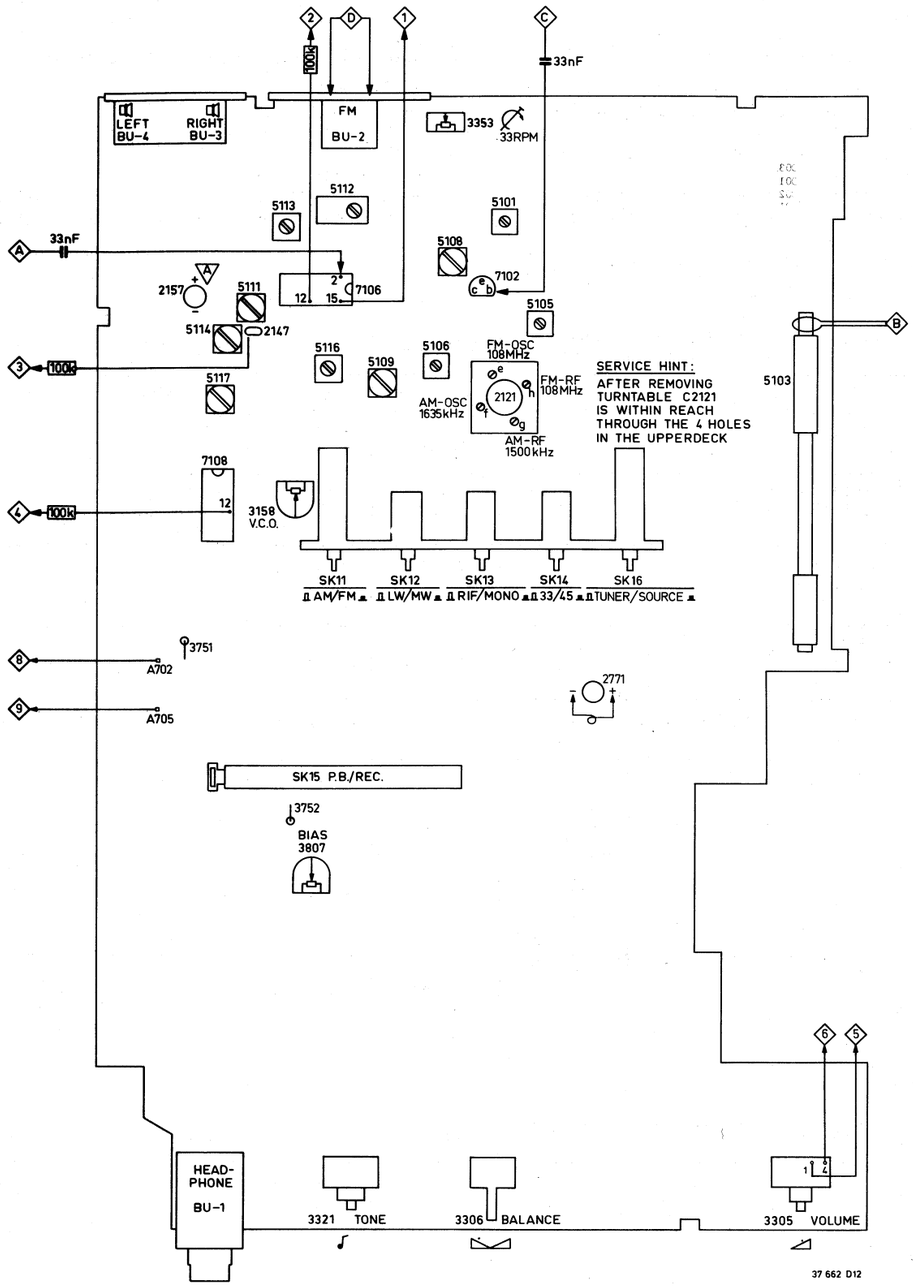
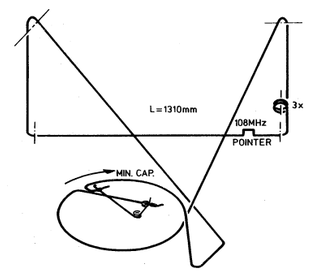


Fig. 2





PARTS LOCATION WIRING DIAGRAM

1301	E01	2106	B02	2114	A02	2119	B03	2125	B02	2136	B02	2145	B01	2152	B01	2157	B01	2169	B01
2101	B02	2107	B02	2115	B02	2120	B03	2131	A02	2138	A01	2146	B01	2153	A01	2158	B02	2170	B01
2102	A02	2108	A03	2116	A02	2121	B03	2132	A02	2139	B02	2147	B01	2154	B01	2166	B01	2171	B01
2103	A03	2109	A03	2117	B02	2122	B03	2133	A02	2140	B02	2148	B02	2155	B01	2167	B01	2173	B01
2105	A02	2110	A03	2118	A02	2123	B02	2135	A02	2141	C02	2149	A01	2156	B02	2168	B01	2174	C01
2175	C01	2180	C01	2307	F01	2312	F03	2320	F03	2325	F02	2330	F03	2339	D03	2348	F04	2360	B03
2176	C01	2181	A01	2308	F03	2313	E01	2321	F02	2326	F02	2335	D01	2340	E01	2349	F04	2361	B04
2177	B01	2183	A01	2309	F01	2314	F03	2322	F02	2327	E02	2336	E01	2341	E01	2350	F03	2362	B03
2178	C01	2305	F04	2310	F03	2316	E03	2323	F01	2328	E02	2337	F03	2343	E01	2355	A03	2363	B03
2179	C01	2306	F04	2311	F01	2319	F01	2324	F02	2329	F02	2338	F02	2347	F04	2359	B04	2364	B03
2365	C03	2422	A01	2452	D03	2755	C01	2760	D03	2765	D01	2773	E01	2779	E02	2784	C02	3101	A02
2366	C04	2424	A01	2751	D01	2756	D03	2761	D02	2766	D03	2774	D01	2780	D01	2786	D02	3102	A02
2401	C01	2425	F01	2752	D02	2757	C02	2762	D03	2769	D02	2775	E02	2781	D03	2787	C03	3103	A02
2402	D03	2426	F01	2753	C01	2758	D03	2763	D02	2770	C03	2776	C03	2782	D01	2791	C01	3104	B02
2404	D01	2451	D02	2754	D03	2759	D01	2764	C03	2771	D03	2778	D02	2783	D03	2792	D03	3105	A02
3106	A02	3112	A03	3125	A02	3138	B01	3149	B02	3157	B01	3162	B01	3301	F04	3306	F03	3311	F01
3107	B02	3113	B03	3126	A02	3139	B01	3150	A01	3158	B01	3163	C01	3302	F04	3307	F01	3312	F03
3108	C02	3114	A02	3135	A01	3140	B01	3154	C01	3159	C01	3166	A01	3303	F04	3308	F03	3313	F02
3109	A02	3115	A02	3136	B02	3145	B01	3155	C01	3160	B01	3172	C01	3304	F04	3309	F01	3314	F02
3111	A02	3121	B02	3137	B01	3148	B02	3156	C01	3161	B01	3173	A01	3305	F04	3310	F02	3315	F02
3316	F03	3321	F02	3327	F02	3338	F02	3345	F04	3365	B03	3370	B03	3418	F01	3754	D02	3759	D01
3317	F01	3323	F01	3328	F03	3339	F02	3351	A03	3366	B03	3371	B04	3419	F01	3755	D01	3760	D03
3318	F02	3324	F02	3331	F01	3340	D04	3352	A02	3367	B04	3372	B03	3751	C01	3756	D02	3761	C01
3319	F02	3325	F01	3332	F01	3343	F04	3353	A02	3368	B03	3375	C03	3752	D01	3757	D01	3762	D03
3320	F02	3326	F02	3337	F03	3344	F04	3354	A03	3369	B03	3405	B01	3753	D01	3758	D03	3763	C01
3764	D03	3769	D01	3774	D02	3779	C02	3786	C03	3793	D02	3800	D02	3811	D01	3816	E02	5105	B03
3765	C02	3770	D03	3775	C02	3780	D02	3787	D02	3794	C03	3801	D04	3812	D03	3817	D02	5106	B02
3766	D03	3771	D02	3776	D03	3783	C02	3788	D03	3795	C01	3807	E01	3813	C01	5101	A03	5107	B03
3767	C01	3772	D03	3777	C02	3784	C03	3791	D02	3796	D03	3809	D02	3814	D03	5103	B04	5108	A02
3768	D03	3773	D01	3778	C03	3785	D02	3792	C03	3799	D01	3810	D02	3815	E02	5104	A03	5109	B02
5110	A02	5115	B02	6103	D04	6301	E01	7103	B02	7302	E03	7701	D01	7706	C03	7711	C01	A705	D01
5111	A01	5116	B02	6104	D04	6302	F03	7104	A02	7305	E04	7702	D03	7707	D02	7712	D03	A706	D01
5112	A02	5117	B01	6106	B01	6303	F04	7106	A01	7307	B03	7703	C01	7708	D03	7713	E02	SK11	C02
5113	A01	6101	A02	6107	B01	7101	A03	7108	C01	7308	B03	7704	D03	7709	D02	7714	E02	SK12	C02
5114	B01	6102	A02	6109	A01	7102	A02	7301	E01	7309	A03	7705	C02	7710	C03	A702	D01	SK13	C02
SK14	B03																		
SK15	D01																		
SK16	C03																		

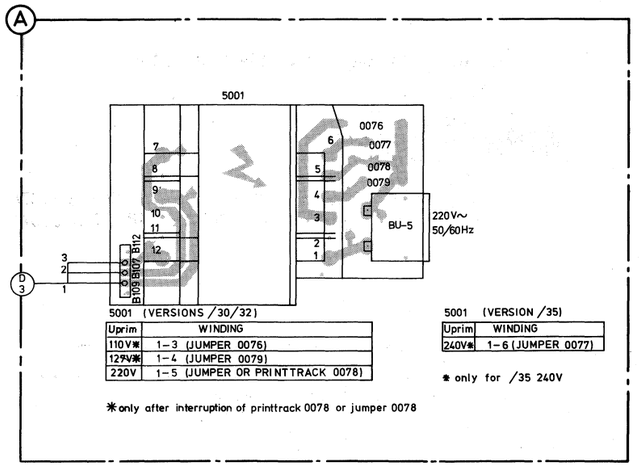
Carbon film 0.2 W	70°C	5%	Ceramic plate Tuning ≤ 120 pF NP.0 — 2% Others — −20/+80%
Carbon film 0.33 W	70°C	5%	Polyester flat foil — 10%
Metal film 0.33 W	70°C	5%	Metalized polyester flat film — 10%
Carbon film 0.5 W	70°C	5%	Polyester flat foil small size (Mylar) — 10%
Carbon film 0.67 W	70°C	5%	Polysterene film/foil — 1%
Carbon film 1.15 W	70°C	5%	Tubular ceramic
			Miniature single
			Subminiature tantalum — ± 20%

Ⓒ Chip component

*a	2,5 V
b	4 V
c	6,3 V
d	10 V
e	16 V
f	25 V
g	40 V
h	63 V
j	100 V
l	125 V
m	150 V
n	160 V
q	200 V
r	250 V
s	300 V
t	350 V
u	400 V
v	500 V
w	630 V
x	1000 V
A	1,6 V
B	6 V
C	12 V
D	15 V
E	20 V
F	35 V
G	50 V
H	75 V
I	80 V

27 037A/C

WIRING DIAGRAM



5001 (VERSIONS /30/32)

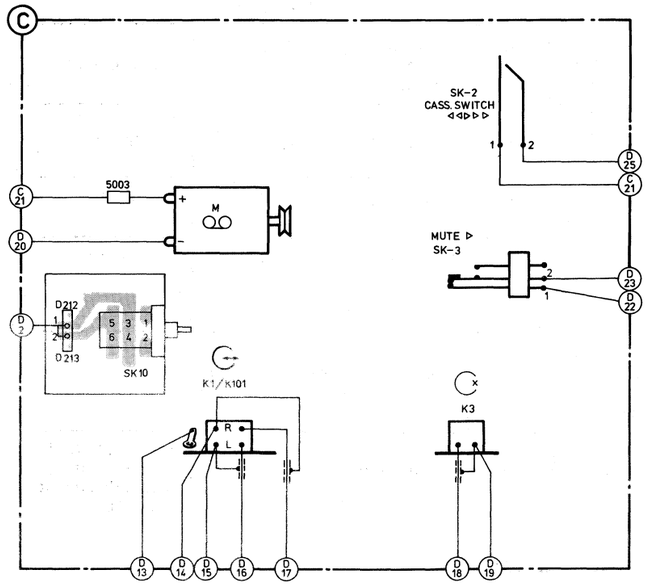
Uprim	WINDING
110V*	1–3 (JUMPER 0076)
127V*	1–4 (JUMPER 0079)
220V	1–5 (JUMPER OR PRINTTRACK 0078)

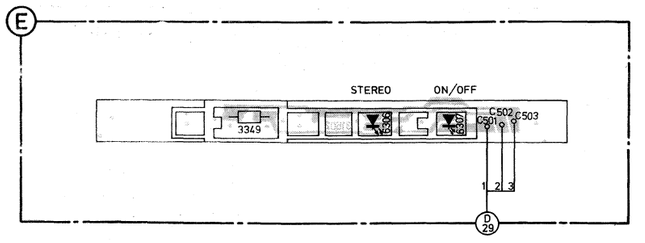
5001 (VERSION /35)

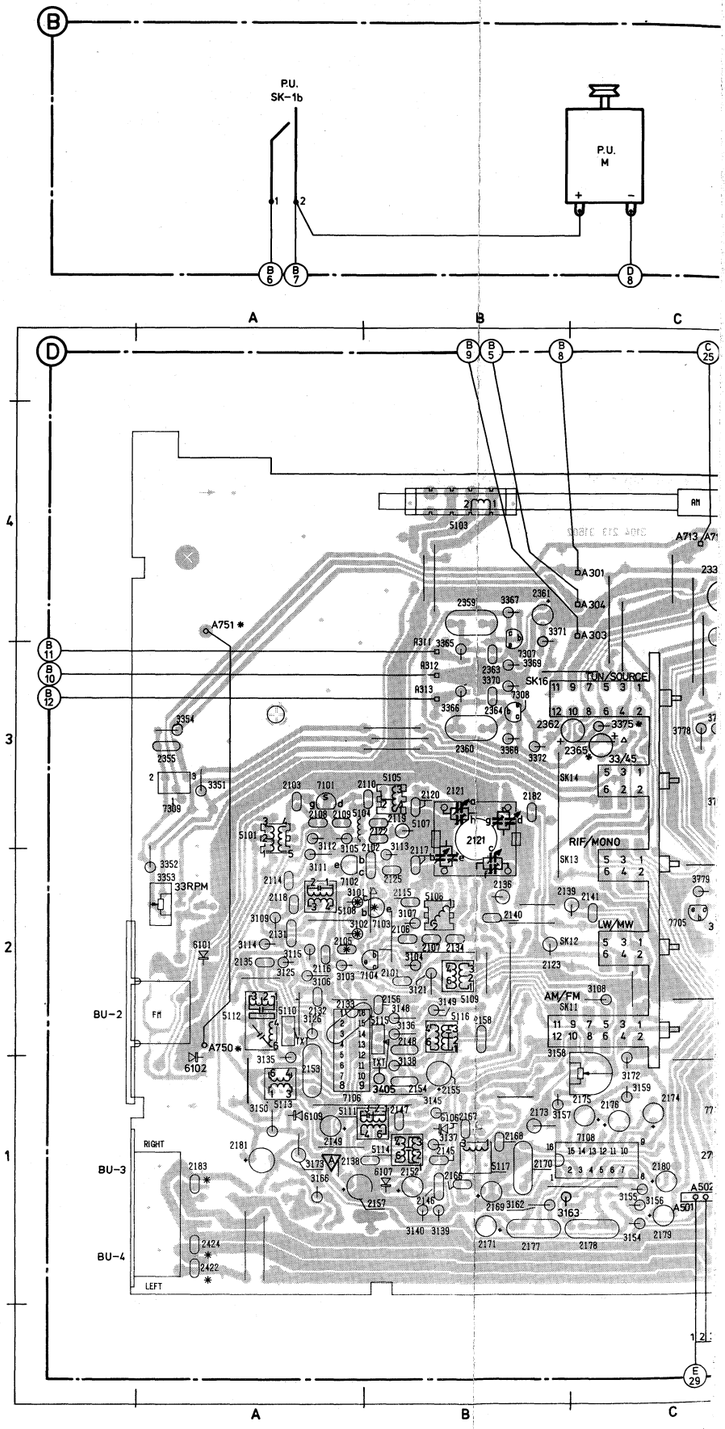
Uprim	WINDING
240V*	1–6 (JUMPER 0077)

* only for /35 240V

*only after interruption of printtrack 0078 or jumper 0078







403+404	4822 426 50722
404	4822 426 60326
406	4822 492 41089
407	4822 255 40373
408	4822 413 31281
409	4822 492 60268
411	4822 413 41147
412	4822 413 41234
413	4822 410 24215
414	4822 404 20542
416	4822 404 20465
417	4822 410 30375
418	4822 410 30411
419	4822 528 80802
420	4822 522 31741
421	4822 321 30213
422	4822 450 80908
423	4822 535 91151
424	4822 528 80801
425	4822 267 30559
426	4822 462 10205
427	4822 417 10779
428	4822 276 11268
429	4822 276 50303
430	4822 277 30709
431	4822 466 80671
433	4822 310 30559
434	4822 535 60075
436	4822 267 20153
437	4822 267 30377
438	4822 520 10532
439	4822 528 80915
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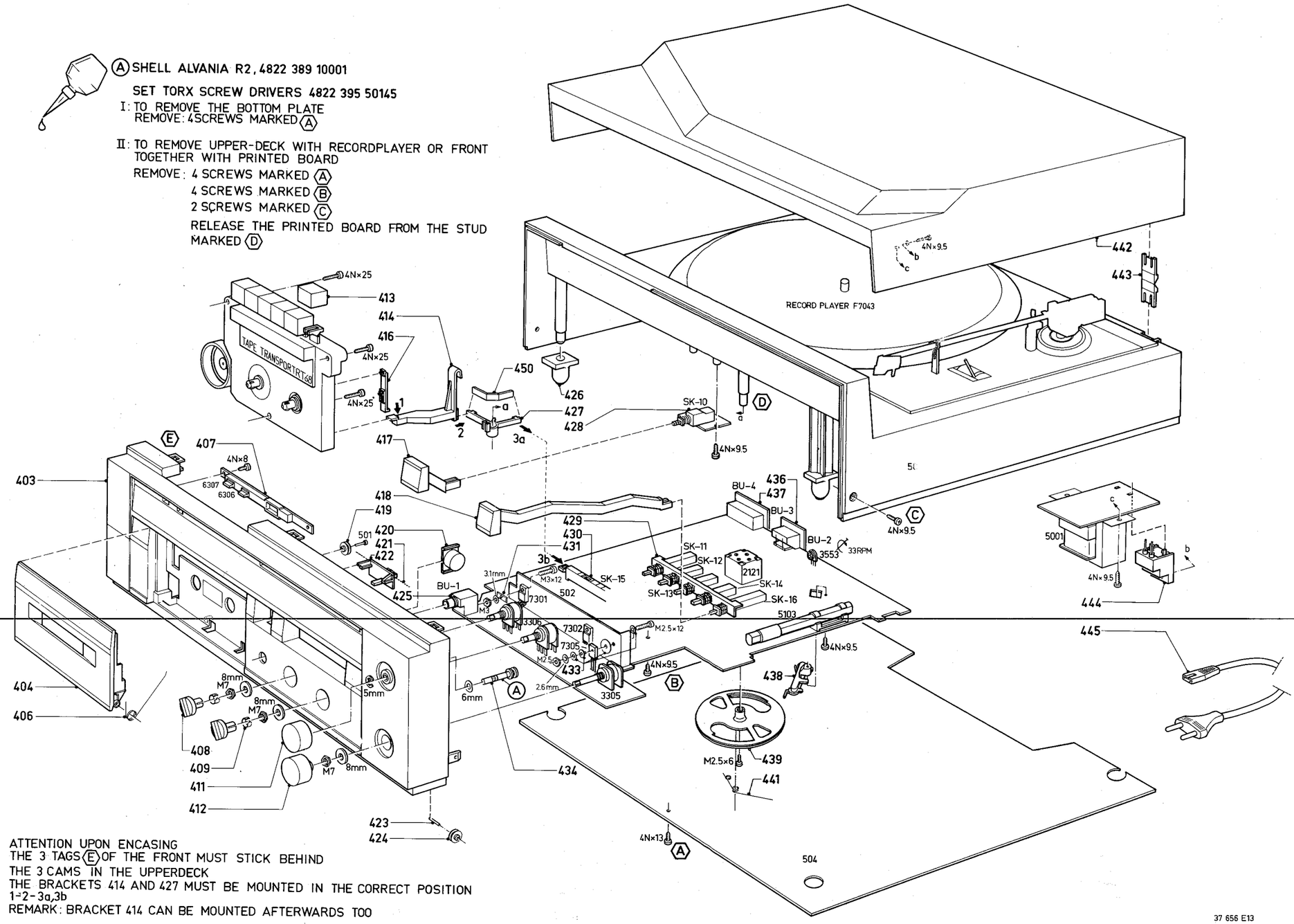
444	4822 265 20262
445	4822 321 10374
450	4822 492 63115


Ⓐ SHELL ALVANIA R2, 4822 389 10001
SET TORX SCREW DRIVERS 4822 395 50145
I: TO REMOVE THE BOTTOM PLATE
REMOVE: 4 SCREWS MARKED Ⓐ
II: TO REMOVE UPPER-DECK WITH RECORDPLAYER OR FRONT TOGETHER WITH PRINTED BOARD
REMOVE: 4 SCREWS MARKED Ⓐ
4 SCREWS MARKED Ⓑ
2 SCREWS MARKED Ⓒ
RELEASE THE PRINTED BOARD FROM THE STUD MARKED Ⓓ
RECORD PLAYER F7043
TAPE TRANSPORT RT68
ATTENTION UPON ENCASING
THE 3 TAGS Ⓔ OF THE FRONT MUST STICK BEHIND
THE 3 CAMS IN THE UPPERDECK
THE BRACKETS 414 AND 427 MUST BE MOUNTED IN THE CORRECT POSITION
1-2-3a,3b
REMARK: BRACKET 414 CAN BE MOUNTED AFTERWARDS TOO
37 656 E13

2117	Plate cap. 27 pF N330	5322 122 32339
2120	Plate cap. 27 pF	4822 122 31234
2121	Varco	4822 125 50172
2132	Plate cap. 56 pF N1500	4822 122 31457
2136	Micropoco 365 pF	4822 121 50803
2139	Micropoco 324 pF	4822 121 50542
2140	Plate cap. 22 pF N1500	4822 122 32503
2145	Plate cap. 180 pF	4822 122 32106
2146	Plate cap. 180 pF	4822 122 32135
2147	Plate cap. 180 pF	4822 122 32106
2166	Plate cap. 82 pF	4822 122 31309
2167	Plate cap. 180 pF	4822 122 32106
2168	Plate cap. 82 pF	4822 122 31309
2307	L.L. elco 0.47 μF 50 V	4822 124 21013
2308	L.L. elco 0.47 μF 50 V	4822 124 21013
2309	Plate cap. 100 pF	4822 122 31715
2310	Plate cap. 100 pF	4822 122 31715
2401	Plate cap. 100 pF N1500	4822 122 31715
2402	Plate cap. 100 pF N1500	4822 122 31715
2773	Plate cap. 180 pF	4822 122 32106
2774	Plate cap. 180 pF	4822 122 32106
2780	Plate cap. 68 pF N150	5322 122 34057

3158	Trimpotm. 4.7 k	4822 100 10036
3305	Potm. 2x 100k vol.	4822 102 30437
3306	Potm. lin. 220k bal.	4822 100 20118
3321	Potm. log. 2x100k tone	4822 102 30438
3327	Fuse res. 1E	4822 111 30483
3328	Fuse res. 1E	4822 111 30483
3337	Fuse res. 4.7E	4822 111 30499
3340	Metal res. 2.2 E 2.5 W	5322 116 51389
3353	Trimpotm. 1k lin.	4822 100 10021
3807	Trimpotm. 100k bias	4822 100 10052

-IC-

TEA1330	4822 209 81858
TEA5570	4822 209 81563
TDA1059B	4822 209 80361
μPC1238V	4822 209 82105

BA220	4822 130 34221
BA317	4822 130 30847
BAX14	4822 130 34193
BZX79/C10	4822 130 34297
BZX79/C5V6	4822 130 34173
Diode bridge	5322 130 34815
Led green SLP-265B	4822 130 32322
1N4148	4822 130 30621

BD675	5322 130 44786
BF241	4822 130 40898
BC548C	4822 130 44196
BC558B	4822 130 44197
BC548B	4822 130 40937
BC549C	4822 130 44246
BF494	4822 130 44195
BF494B	4822 130 41376
2SK193LF	4822 130 41813

5003	FL-9H561K	4822 157 51871
5101	Aerial trafo	4822 157 51233
5103	Ferroceptor	4822 158 60514
5104	Coil	4822 156 10641
5105	RF coil	4822 157 51693
5106	Osc. coil	4822 157 51618
5107	Inductor 0.47 μH	4822 157 50967
5108	IF coil 10.7 MHz	4822 153 50206
5109	Aerial trafo LW	4822 156 30564
5110	Cer. res. 10.7 MHz	4822 242 70249
5111	FM det. coil	4822 157 51615
5112	IF filter 450 kHz	4822 157 51617
5113	Osc. coil AM	4822 157 51616
5114	Det. coil FM 10.7 MHz	4822 153 50208
5115	Cer. res. 10.7 MHz	4822 242 70249
5116	IF coil AM 460 kHz	4822 157 51708
5117	Coil 22 mH	4822 157 51842
5001/30/32	Mainstransformer	4822 146 21018